

# Project Planning, Proposal, Milestones

ECE532S: Digital Systems Design

Spring 2008

## Timeline

**Draft Proposal Due** Monday, January 21, at start of lecture. Briefly describe the project you want to implement. Provide enough so that you can discuss your proposal with a TA so that the TA can give you some feedback on it being too hard, too easy or does not meet the requirements. This can be very rough and even in point form. It should probably include a few rough diagrams.

**Proposal Feedback and Set Milestone 1** Wednesday, January 23. During the lab, a TA will discuss your lab proposal and help you determine the first milestone that you will demonstrate later.

**Formal Proposal Due** Wednesday, January 30 in lab. This is the formal proposal as outlined below. Keep a copy for yourself as we will keep the proposal to start a file for your project.

**Weekly Milestones** Each week you will negotiate milestones for the next week. Each member will be responsible for at least some aspect of a milestone and you will be evaluated on your actual progress the following week.

**Demonstration** March 26 lab.

Project outline begins on next page...

## Proposal

This is a template for your project proposal. It does not have to be in perfect prose (point form is okay). However, it should clearly convey the intent and planning for the project. Please provide **all** of the information requested in this template.

The proposal is worth 5%. Marks (1 per day) will be deducted for late submission. Please pay attention to the requirements for each section. All information requested is required.

### Project Title

### Project Team

It is expected that a typical team will consist of three members.

List your team members.

### Project Description

Describe the project to be implemented. The basic guideline is that your project should incorporate at least one MicroBlaze processor and a hardware block of your own design.

Include a **system block diagram** that shows all of the major components in the system. See the link on the course web site for a good example of what is expected in a block diagram. Indicate which components will be the reuse of existing IP, and which components will have to be implemented. Briefly describe each component.

Note that a component can be hardware or software, i.e., a block in your block diagram could be hardware or software. Depending on the project, you may need one diagram to describe the hardware system, and one to describe the structure of your software.

The diagram and its description shows the work that you have put in to figuring out how your system is supposed to work and it should help you estimate the amount of work required.

### Milestones

Give an initial estimate of the milestones you hope to accomplish each week for the project starting from now till the demo. If you know how to do a Gant chart, this would be a good addition, but you should also provide a bit of explanation of each milestone.

**Feb 13** Choose this milestone well. Indicate your planned progress towards your first milestone and what you plan to show or demo.

**Feb 27** By this milestone you should have significant progress in your design most likely demonstrated by a working simulation of some hardware. We will build and test blocks *widget A* and *widget B*

**March 5** Complete and test code for software *XYZ Control*

**March 12** etc.

**March 19** etc.

**March 26** Done! Final demo.

## Milestone Progress Reports

**For each lab, starting Feb. 13, you should prepare a one-page progress report** and email it to the TA managing your group **the evening before the lab** or else it will affect your grade. The report should be straight text format, no pdf, now Word files, just plain old text! This will make it easier for the TA to annotate comments.

The report should provide the following information:

- Progress towards that week's milestones. If a significant delay is incurred, discuss how you will accommodate it. It may be something like, "Will have to delete feature *ABC*."
- Proposed milestones for the next week. This may be amended after discussion with the TA.

It is quite possible that you will not meet a milestone. In that case, be prepared to explain what you did during the week. Struggling with a bug and describing how you wrestled with it is acceptable as a delay in your milestones as long as your approach was significantly better than random guessing or trial-and-error.

Your overall project grade will depend on how well you meet your original milestones, or, if you encounter difficulties, how well you make adjustments by the end of the project.

Choose your project in a way that you can afford to *slip* (four-letter word that managers hate to hear) a few weeks and still show something that works at the end.

This means that you should have several working stages, each with some additional functionality or features. If you have some unforeseen delay, you should be able to still show something that works in the end, even though it is not the full project you initially proposed. This is an important part of planning a project: get some basic stuff working as soon as possible. Add fancy features, optimize your circuits, and make it beautiful later. Time to market (time to marks?) is often more critical (how to make money) than being perfect (the dreaded perfectionist engineer). Better something that works with basic functionality, than something pretty that does nothing.

## Resource Requirements

List other resources you will need such as microphones, VGA monitors, or video cameras. Microphones and VGA monitors are readily available in the lab. You will have to provide anything else you require, like cameras, but it is good to know the list.